My invention relates to an improvement in a carton that is designed to provide a package for containing goods which may be easily and conveniently carried. The carton may be used for containing canned goods or other similar articles, equipped with handles for ease in carrying. As a result, the carton stock may bend inwardly against the surfaces of the top panel of the series, thus permitting the center portion of the top panel to be raised above the level of the cans. A hand hole is provided in the top panel between the two cans so that a maximum amount of room is provided for the fingers.

An added feature of the present invention resides in producing a carton having a top panel formed with a hand hole therein and having a glue flap secured to the top panel in such a manner as to provide a reinforcement for the hand hole. In this way the top panel is reinforced sufficiently to permit the package to be carried without danger of tearing the carton walls.

These and other objects and novel features of my invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of my specification:

Figure 1 is a diagrammatic view of the blank from which the carton is formed.

Figure 2 is a sectional view through the closed carton showing the manner in which the carton top panel bows upwardly when a pull is exerted thereupon.

Figure 3 is a perspective view of the packed container.

Figure 4 is a view similar to Figure 3 showing the manner in which the top panel is distorted by an upward pull thereupon.

The carton includes a side wall panel 10, a bottom panel 11 and a side wall panel 12 connected together along parallel fold lines 13 and 14. The upper edge of the side wall panel 10 is connected along a fold line 15 to a top panel 16. The opposite side wall panel 12 is connected along a fold line 17 to a top panel 19. Adhesive is applied as indicated at 20 to the top panel 19 so as to secure this top panel in overlapped relation to the top panel 16. The top panel 19 may be of sufficient width to extend substantially across the top panel 16 or may be relatively shorter as indicated in Figure 1.

Closing flaps 21 and 22 are foldably connected to the bottom panel 11 along parallel fold lines 23 and 24. Closure flaps 25 and 26 are foldably connected to the side wall panel 10 along continuations of the fold lines 23 and 24. Closing flaps 27 and 29 are foldably connected to the side wall panel 12 along continuations of the fold lines 23 and 24. The top panel 16 is provided with closing flaps 30 and 31 also connected along extensions of the fold lines 23 and 24. The top panel 16 is similarly provided with closing flaps 32 and 33.
A pair of curved fold lines 34 and 35 extend from the juncture of the fold line 15 with the fold line 23 to the juncture between the fold lines 16 and 24. These curved fold lines 34 and 35 are preferably arcuate in form and bow outwardly from the fold line 16 so as to be at greatest distance therefrom at their center points. A similar pair of bowed fold lines 36 and 37 are provided on opposite sides of the fold line 17. These fold lines 36 and 37 extend from the juncture of the fold lines 17 and 23 to the juncture between the fold lines 17 and 24. Thus these fold lines 36 and 37 are at greatest distance from the fold line 17 intermediate their ends. The hand hole is provided in the top panel 16, this hole being preferably formed by a flap 39 having arcuate ends 40 and 41 and a straight connecting side 42. The arcuate ends 40 and 41 are connected along a fold line 43 parallel to the straight side 42 of the flap 39. The flap 39 may be folded downwardly into the carton A and folded back to underlie the portion of the panel 16, as illustrated in Figure 2 of the drawings.

As indicated in Figure 2 of the drawings, the top panel 20 preferably overlaps the panel 16 to a point adjacent to the fold line 43 so that as the flap 39 is folded downwardly it may be folded beneath the marginal edge of the top panel 19. However, if preferred the top panel 19 may be extended throughout a greater area of the panel 18 and be provided with a hand hole therein which coincides with the hole formed by inward folding of the flap 39.

The carton A is formed by folding the blank along two of its parallel fold lines so that the top panels 16 and 19 are brought together by the adhesive 20. The carton is ordinarily furnished the customer in this form. When it is desired to pack the carton the connected closure flaps 31 and 33 are folded into substantially coplanar relation with the opposite flap 22 and the flaps 26 and 25 are then folded to overlie the short inner flaps. Adhesive is provided between the flaps for sealing the same together.

During the filling operation the flaps first sealed in the manner described are arranged to form the bottom of the carton so that the carton B may be inverted by gravity thereinto. The opposite wall of the carton, which at this point forms the carton top is next sealed by folding the connected flaps 30 and 32 down into coplanar relation with the opposite flap 21 and the flaps 25 and 27 are folded down upon these inner flaps and adhered thereto.

The carton thus formed is a glued end carton resembling the usual carton of this type, with the exception of the fact that the connecting glue flap is somewhat differently arranged than usual. The curved fold lines do not ordinarily change the folding operation and the ends of the cans B engage the closure flap panels of the carton and are confined as well as if the curved fold lines were not present. In other words, the walls of the carton against which the ends of the cans engage remain substantially rectangular in form even though the center portion of the top wall panel is bulged upwardly.

When it is desired to lift the carton the flap 39 is folded inwardly in the manner illustrated in Figure 2 of the drawings and the fingers are inserted through the hole thus produced. An upward pull upon the carton top panels causes the carton to fold along the curved fold lines 34, 36, 38 and 37 as there is no internal support at these points. As a result the center portion of

the wall panels curves to generally fit the curvature of the cans as illustrated in section in Figure 2, permitting the top panel to raise above the level of the cans B and providing additional space within the carton for the fingers.

Thus it will be seen that with my type of construction a hand hole may be employed at the top of the carton and at the same time the carton may be designed to snugly fit the contents. Even after the package has been carried the contents will be properly confined within the carton due to the fact that the end walls against which the ends of the can engage maintain substantially their original rectangular shape, even though the top panel is drawn upwardly into spaced relation from the cans.

It will also be noted that the glue flap forms the reinforcing for the top panel and particularly adjacent the hand hole so that the carton stock will not split at this point.

In accordance with the patent statutes, I have described the principles of construction and operation of my dome top carrier carton, and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A carrier carton including rectangularly arranged side and end walls, a bottom panel foldably connected thereto and a top panel foldably connected to the upper edges of said wall panels, a pair of arcuate fold lines on opposite sides of each of two parallel fold lines connecting said top panel to said side wall panels, said arcuate fold lines merging together at opposite corners of the carton and diverging apart between their ends, each of said parallel fold lines dividing the area between the fold line of each pair into two segmental areas.

2. A carrier carton in combination with a series of substantially cylindrical cans arranged in layers, each layer comprising a plurality of cans in side by side relation and the cans of each layer being positioned above the cans of the layer next below, the carton comprising rectangularly arranged side walls, a bottom wall and a top panel foldably connected to said side walls, the fold lines connecting said top panel to two opposed side walls extending parallel to the axes of the cans, and arcuate fold lines on opposite sides of said two fold lines, said arcuate fold lines merging together at opposite ends of said two fold lines and arching apart between the ends thereof, said two fold lines each dividing the area between the arcuate fold lines of each pair and forming two segmental areas on opposite sides of these fold lines, said fold lines permitting the carton stock between the arcuate fold lines of each pair to flex inwardly to somewhat follow the contour of the cylindrical surface of the cans of the uppermost layer, thereby permitting the center portion of said top panel to dome upwardly.

3. A carrier carton in combination with a series of substantially cylindrical cans arranged in layers, each layer comprising a plurality of cans in side by side relation and the cans of each layer being positioned above the cans of the layer next below, the carton comprising rectangularly arranged side walls, a bottom wall and a top panel foldably connected to said side walls, the fold lines connecting said top panel to two opposed side walls extending parallel to the axes of the cans.
of the cans, and arcuate fold lines on opposite sides of said two fold lines, said arcuate fold lines merging together at opposite ends of said two fold lines, said fold lines and arcuate fold lines merging together, formed by said fold lines, said fold lines permitting the carton stock between the arcuate fold lines of each pair to flex inwardly to somewhat follow the contour of the cylindrical surface of the cans of the uppermost layer, thereby permitting the center portion of said top panel to dome upwardly, said top panel having a hand hole therein intermediate the edges thereof.

4. A carrier carton in combination with a series of substantially cylindrical cans arranged in layers, each layer comprising a plurality of cans in side by side relation and the cans of each layer being positioned above the cans of the layer next below, the carton comprising rectangularly arranged side walls, a bottom wall and a top panel foldably connected to said side walls, the fold lines connecting said top panel to two opposed side walls extending parallel to the axes of the cans, and arcuate fold lines on opposite sides of said two fold lines, said arcuate fold lines merging together at opposite ends of said two fold lines and arching apart between the ends thereof, said fold lines permitting the carton stock between the arcuate fold lines of each pair to flex inwardly to somewhat follow the contour of the cylindrical surface of the cans of the uppermost layer, thereby permitting the center portion of said top panel to dome upwardly, each layer of cans including an even number of cans, the top panel being provided with a hand hole therein so located that the fingers of the hand in extending through the hole extend into the portion of the carton between two cans of the uppermost layer.

5. A carrier carton including a pair of opposed side walls, a bottom wall foldably connected thereto and a top panel foldably connecting the same, closure flaps on said side and bottom walls and said top panel, said top panel comprising a main panel and an overlapping portion secure together in marginal overlapping relation, said main panel having an elongated hand hole therein having one longitudinal edge parallel to and substantially flush with the free end of said overlapping portion, and arcuate fold lines on either side of the fold lines connecting said top panel to said side walls, said arcuate fold lines merging together at each end thereof and bowed away from one another intermediate their ends.

6. A carton formed from a blank including a series of panels connected along parallel fold lines, the panels including a first top panel, a first side panel, a bottom panel, a second side panel, and a second top panel, closure flaps hingedly secured to opposite sides of said side and bottom panels and to at least one of said top panels, said first top panel being substantially shorter than the bottom panel and having a free end overlapping said second top panel and secured thereto, and terminating along a line substantially parallel to, and spaced from, the fold line connecting said second top panel to said second side wall panel, said second top panel having a hand hole therethrough in the portion thereof between the free end of the first top panel and the fold line connecting the second top panel to the second side wall panel with an edge of the hole adjacent to the free end of the first top panel.

7. The structure defined in claim 6 and in which both top panels include closing flaps.

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